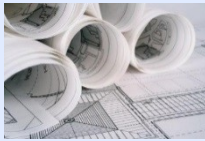


While impacted by the recession, Baltimore County's Construction industry is on the rebound. Employment projections over the next decade indicate a bright outlook regionally, spurred by strong job growth resulting from major construction and development projects throughout the County and Greater Baltimore region. From planning and design, to demolition, reconstruction, and continual assessment and maintenance of the structural integrity and safety of the region's infrastructural assets, there is always demand in this industry for a steady talent pipeline of highly-skilled, licensed workers.

## The Construction industry relies heavily upon occupations related to:



**Design &  
Pre-Construction**



**Construction/Transportation  
& Material Moving**



**Maintenance/Operations,  
Installation & Repair**

### Construction Related Support Service Occupations include:

Office & Administrative Support

Experienced Laborers in Skilled Trades

Customer Service & Clerical

## CONSTRUCTION CAREER CLUSTERS

This section provides examples of the entry- and middle-skilled Construction and related occupations in highest demand among Baltimore County employers, based on 2016 employment data, wages, and projected job growth. The data are categorized by "Construction Career Clusters" – groups of Construction occupations in the same field of work that require similar skills – which can be used to help focus education plans towards obtaining the necessary knowledge, competencies, and training for success in one of many Construction career options.

### Construction Occupations At-A-Glance

- Career Clusters with the most significant middle-skilled demand: **Maintenance/Operations, Installation & Repair**
- Related occupations in other Construction Career Clusters: **Transportation & Material Moving; Skilled Trades**

### Pre-Construction & Construction

#### Design & Pre-Construction:

- ♦ Design and engineering careers in this cluster require extensive educational credentials (Bachelors, Masters, Professional Degree) and years of experience in the field to gain recognition for demonstrated expertise. Some occupations include:

Architects | Civil Engineers | Interior Designers | Commercial & Industrial Designers | Cost Estimators

- ♦ Entry into many technical occupations in this cluster requires a minimum of a HS diploma/equivalent or some college, no degree. Career advancement requires post-secondary certifications and work experience through vocational training, industry recognized apprenticeship and short-, moderate-, or long-term on-the-job training (OJT). Occupations include:

Industrial Engineering Technicians | Electrical & Electronics Engineering Technicians | Civil Engineering Technicians | Survey & Mapping Technicians

#### Construction:

- ♦ Construction occupations require highly-skilled entry-level workers with occupationally specific certifications, credentials and licensure. Apprenticeships in the skilled trades create many pathways for new entrants to earn competitive wages while gaining hands-on skills under experienced masters of the trade. As there will always be demand for skilled laborers with proven work experience, there are many opportunities for advancement with significant earnings increases upon successful completion of vocational training. Occupations include:

Construction Laborers | Electricians | Plumbers, Pipefitters, Steamfitters | Construction & Building Inspectors | Sheet Metal Workers

#### Transportation & Material Moving:

- ♦ Careers in this cluster are consistent with the minimum education and certification requirements as listed above. Occupations include:

Entry-level: Light Truck Delivery Services Drivers; Conveyor Operators & Tenders | Middle-Skilled: Industrial Truck and Tractor Operators; Crane and Tower Operators

Wages increase with years of experience or transition into higher paying supervisory or driving positions such as Heavy Truck and Tractor Drivers.

### Maintenance/Operations, Installation & Repair

Workers advance in these occupations and earn higher wages as they become proficient and attain nationally and industry recognized certifications and credentials. High-demand occupations in this cluster include:

General Maintenance and Repair Workers | Heating, Air Conditioning & Refrigeration Mechanics & Installers | Telecommunications Line Installers & Repairers

With the anticipated redevelopment projects throughout the Greater Baltimore Region, there is significant demand to grow the skilled labor workforce. Construction employers require on-demand access to experienced laborers to meet the demand of current contracts, while attracting the next generation of skilled talent into a wide range of Construction careers.

Here are a few middle-skilled occupations with projected high growth that...

## STRENGTHEN BALTIMORE COUNTY'S FOUNDATION!

### HIGH-DEMAND MIDDLE- AND HIGH-SKILLED OCCUPATIONS

Pre-Construction & Construction	<b>Education &amp; Skills:</b>	
	Upon Entry: HS Diploma or Equivalent / Associates / Post-Secondary Certificate	
	Advancement: Industry-recognized credentials from vocational training, apprenticeship, moderate- or long-term OJT and work experience	
	<b>Design &amp; Pre-Construction</b> <b>Electrical &amp; Electronic Engineering Technicians (17-3023)</b> 2016 Est. Emp.: 630 / Mean Wage: \$31.22 <b>Civil Engineering Technicians (17-3022)</b> 2016 Est. Emp.: 360 / Mean Wage: \$23.30 <b>Mechanical Drafters (17-3013)</b> 2016 Est. Emp.: 250 / Mean Wage: \$28.42 <b>Electrical &amp; Electronics Drafters (17-3012)</b> 2016 Est. Emp.: 80 / Mean Wage: \$26.28	<b>Transportation &amp; Material Moving</b> <b>Heavy and Tractor-Trailer Truck Drivers (53-3032)</b> 2016 Est. Emp.: 3,890 / Mean Wage: \$21.37 <b>Industrial Truck &amp; Tractor Operators (53-7051)</b> 2016 Est. Emp.: 640 / Mean Wage: \$18.48 <b>First-Line Supervisors of Helpers, Laborers &amp; Material Movers (53-1021)</b> 2016 Est. Emp.: 590 / Mean Wage: \$22.99 <b>Crane &amp; Tower Operators (53-7021)</b> 2016 Est. Emp.: 150 / Mean Wage: \$27.49
<b>Construction</b>		
	<b>Construction Laborers (47-2061)</b> 2016 Est. Emp.: 3,200 / Mean Wage: \$16.34 <b>Electricians (47-2111)</b> 2016 Est. Emp.: 2,530 / Mean Wage: \$25.01 <b>First-Line Supervisors of Construction Trades &amp; Extraction Workers (47-1011)</b> 2016 Est. Emp.: 2,480 / Mean Wage: \$32.12 <b>Carpenters (47-2031)</b> 2016 Est. Emp.: 2,250 / Mean Wage: \$23.70	<b>Plumbers, Pipefitters, and Steamfitters (47-2152)</b> 2016 Est. Emp.: 1,860 / Mean Wage: \$27.16 <b>Operating Engineers and Other Construction Equipment Operators (47-2073)</b> 2016 Est. Emp.: 980 / Mean Wage: \$25.96 <b>Cement Masons and Concrete Finishers (47-2051)</b> 2016 Est. Emp.: 580 / Mean Wage: \$22.69 <b>Construction and Building Inspectors (47-4011)</b> 2016 Est. Emp.: 440 / Mean Wage: \$26.05

Maintenance/Operations, Installation & Repair	
<b>Education &amp; Skills:</b>	
Upon Entry: HS Diploma or Equivalent / Associates / Post-Secondary Certificate	
Advancement: Industry-recognized credentials from vocational training, apprenticeship, short- or moderate-term OJT and work experience	
<b>Maintenance &amp; Repair Workers, General (49-9043)</b> 2016 Est. Emp.: 3,300 / Mean Wage: \$19.04 <b>First-Line Supervisors of Mechanics, Installers &amp; Repairers (49-1011)</b> 2016 Est. Emp.: 1,400 / Mean Wage: \$31.73 <b>Industrial Machinery Mechanics (49-9021)</b> 2016 Est. Emp.: 700 / Mean Wage: \$24.42 <b>Telecommunications Line Installers &amp; Repairers (49-9052)</b> 2016 Est. Emp.: 610 / Mean Wage: \$27.80	<b>Heating, Air Conditioning &amp; Refrigeration Mechanics (49-9021)</b> 2016 Est. Emp.: 530 / Mean Wage: \$28.46 <b>Installation, Maintenance &amp; Repair Workers, All Other (49-9099)</b> 2016 Est. Emp.: 520 / Mean Wage: \$20.28 <b>Bus &amp; Truck Mechanics &amp; Diesel Engine Specialists (49-3031)</b> 2016 Est. Emp.: 480 / Mean Wage: \$25.23 <b>Electrical &amp; Electronics Repairers, Commercial &amp; Industrial Equipment (49-2094)</b> 2016 Est. Emp.: 160 / Mean Wage: \$30.34

### Support Service Occupations – Entry Level

Support Service Occupations (SSOs) are jobs that can be found across all industry sectors that are critical to the daily operation, administration and management of the business. The Construction industry shares many of the same key SSO's found in the Transportation, Distribution & Logistics (TDL) industry such as: **Office, Administrative & Clerical Support, and Property Management.** Office and administrative support occupations account for **11% of employment**, creating entry points to any of the career clusters listed above, depending upon one's interests, skills and abilities.

**Office and Administrative Support Workers, All Other (43-9199)**  
 2016 Est. Emp.: 520 / Mean Wage: \$19.23

**Property, Real Estate, & Community Association Managers (11-9141)**  
 2016 Est. Emp.: 450 / Mean Wage: \$23.63



Occupations in the Construction Career Clusters have varying requirements for minimum education/skill levels. Career progression may require short-, moderate- or long-term on-the-job training (OJT) and industry recognized apprenticeship credentials.

## Design & Pre-Construction

**Electrical & Electronics Engineering Technicians (17-3023)**  
2016 Est. Emp.: 630 / Mean Wage: \$31.22

**Civil Engineering Technicians (17-3022)**  
2016 Est. Emp.: 360 / Mean Wage: \$23.30

**Mechanical Drafters (17-3013)**  
2016 Est. Emp.: 250 / Mean Wage: \$28.42

**Architectural & Civil Drafters (17-3011)**  
2016 Est. Emp.: 230 / Mean Wage: \$30.31

**Surveyors (17-1022)**  
2016 Est. Emp.: 160 / Mean Wage: \$29.09

**Surveying & Mapping Technicians (17-3031)**  
2016 Est. Emp.: 110 / Mean Wage: \$23.36

**Electrical & Electronics Drafters (17-3012)**  
2016 Est. Emp.: 80 / Mean Wage: \$26.28

**Environmental Engineering Technicians (17-3025)**  
2016 Est. Emp.: 80 / Mean Wage: \$27.27

**Landscape Architects (17-1012)**  
2016 Est. Emp.: 70 / Mean Wage: \$40.30

**Commercial and Industrial Designers (27-1021)**  
2016 Est. Emp.: 40 / Mean Wage: \$29.64

**Engineering Technicians, Except Drafters, All Other (17-3029)**  
2016 Est. Emp.: 30 / Mean Wage: \$39.81

**Industrial Engineering Technicians (17-3026)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$28.40

**Mechanical Engineering Technicians (17-3027)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$27.45

## Transportation & Material Moving

**Light Truck or Delivery Services Drivers (53-3033)**  
2016 Est. Emp.: 3,980 / Mean Wage: \$17.74

**Heavy & Tractor-Trailer Truck Drivers (53-3032)**  
2016 Est. Emp.: 3,890 / Mean Wage: \$21.37

**Cleaners of Vehicles & Equipment (53-7061)\***  
2016 Est. Emp.: 850 / Mean Wage: \$12.26

**Industrial Truck & Tractor Operators (53-7051)**  
2016 Est. Emp.: 640 / Mean Wage: \$18.48

**First-Line Supervisors of Helpers, Laborers, & Material Movers (53-1021)**  
2016 Est. Emp.: 590 / Mean Wage: \$22.99

**First-Line Supervisors of Transportation & Material Moving Machine & Vehicle Operators (53-1031)**  
2016 Est. Emp.: 430 / Mean Wage: \$31.43

**Crane & Tower Operators (53-7021)**  
2016 Est. Emp.: 150 / Mean Wage: \$27.49

**Hoist & Winch Operators (53-7041)**  
2016 Est. Emp.: 30 / Mean Wage: \$29.61

**Conveyor Operators & Tenders (53-7011)**  
2016 Est. Emp.: 10 / Mean Wage: \$17.97

**Excavating & Loading Machine & Dragline Operators (53-7032)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$25.90

**Refuse & Recyclable Material Collectors (53-7081)\***  
2016 Est. Emp.: 10 / Mean Wage: \$13.92

## Construction

**Construction Laborers (47-2061)**  
2016 Est. Emp.: 3,200 / Mean Wage: \$16.34

**Electricians (47-2111)**  
2016 Est. Emp.: 2,530 / Mean Wage: \$25.01

**First-Line Supervisors of Construction Trades & Extraction Workers (47-1011)**  
2016 Est. Emp.: 2,480 / Mean Wage: \$32.12

**Carpenters (47-2031)**  
2016 Est. Emp.: 2,250 / Mean Wage: \$23.70

**Plumbers, Pipefitters & Steamfitters (47-2152)**  
2016 Est. Emp.: 1,860 / Mean Wage: \$27.16

**Construction Managers (11-9021)**  
2016 Est. Emp.: 1,000 / Mean Wage: \$50.31

**Operating Engineers & Other Construction Equipment Operators (47-2073)**  
2016 Est. Emp.: 980 / Mean Wage: \$25.96

**Cement Masons & Concrete Finishers (47-2051)**  
2016 Est. Emp.: 580 / Mean Wage: \$22.69

**Construction & Building Inspectors (47-4011)**  
2016 Est. Emp.: 440 / Mean Wage: \$26.05

**Painters, Construction & Maintenance (47-2141)**  
2016 Est. Emp.: 310 / Mean Wage: \$20.77

**Helpers - Carpenters (47-3012)\***  
2016 Est. Emp.: 290 / Mean Wage: \$12.54

**Roofers (47-2181)\***  
2016 Est. Emp.: 270 / Mean Wage: \$14.33

**Sheet Metal Workers (47-2211)**  
2016 Est. Emp.: 190 / Mean Wage: \$21.75

**Glaziers (47-2121)**  
2016 Est. Emp.: 130 / Mean Wage: \$21.81

**Pipelayers (47-2151)**  
2016 Est. Emp.: 120 / Mean Wage: \$19.46

**Structural Metal Fabricators & Fitters (51-2041)**  
2016 Est. Emp.: 80 / Mean Wage: \$17.44

**Floor Layers, Except Carpet, Wood, & Hard Tiles (47-2042)**  
2016 Est. Emp.: 60 / Mean Wage: \$19.01

While locally specific data is unavailable for some occupations related to Construction and Maintenance/Operations, Installation & Repair, they are critical to the industry and there is significant employer demand for them throughout the region.

(See gray shaded boxes below)

**Carpet Installers (47-2041)**  
Mean Wage: \$46.20

**Structural Iron & Steel Workers (47-2221)**  
Mean Wage: \$25.74

**Insulation Workers, Mechanical (47-2132)**  
(BCO - highest employment in the region)  
Mean Wage: \$22.26

**Brickmasons & Blockmasons (47-2021)**  
Mean Wage: \$21.36

**Drywall & Ceiling Tile Installers (47-2081)**  
Mean Wage: \$20.89

**Hazardous Materials Removal Workers (47-4041)**  
Mean Wage: \$17.79

## Maintenance/Operations, Installation & Repair

**Maintenance & Repair Workers, General (49-9071)**  
2016 Est. Emp.: 3,330 / Mean Wage: \$19.04

**Landscaping & Groundskeeping Workers (37-3011)\***  
2016 Est. Emp.: 2,320 / Mean Wage: \$13.61

**First Line Supervisors of Mechanics, Installers & Repairers (49-1011)**  
2016 Est. Emp.: 1,400 / Mean Wage: \$31.73

**Industrial Machinery Mechanics (49-9041)**  
2016 Est. Emp.: 700 / Mean Wage: \$24.42

**Telecommunications Line Installers & Repairers (49-9052)**  
2016 Est. Emp.: 610 / Mean Wage: \$27.80

**Heating, Air Conditioning & Refrigeration Mechanics & Installers (49-9021)**  
2016 Est. Emp.: 530 / Mean Wage: \$28.46

**Installation, Maintenance & Repair Workers, All Other (49-9099)**  
2016 Est. Emp.: 520 / Mean Wage: \$20.28

**First-Line Supervisors of Landscaping, Lawn Service & Groundskeeping Workers (37-1012)**  
2016 Est. Emp.: 510 / Mean Wage: \$21.44

**Bus & Truck Mechanics & Diesel Engine Specialists (49-3031)**  
2016 Est. Emp.: 480 / Mean Wage: \$25.23

**Security & Fire Alarm Systems Installers (49-2098)**  
2016 Est. Emp.: 330 / Mean Wage: \$24.88

**Locksmiths & Safe Repairers (49-9094)**  
2016 Est. Emp.: 200 / Mean Wage: \$21.42

**Pest Control Workers (37-2021)**  
2016 Est. Emp.: 200 / Mean Wage: \$23.00

**Electrical & Electronics Installers & Repairers, Commercial & Industrial Equipment (49-2094)**  
2016 Est. Emp.: 160 / Mean Wage: \$30.34

**Maintenance Workers, Machinery (49-9043)**  
2016 Est. Emp.: 90 / Mean Wage: \$21.29

**Outdoor Power Equipment & Other Small Engine Mechanics (49-3053)**  
2016 Est. Emp.: 80 / Mean Wage: \$18.98

**Stationary Engineers & Boiler Operators (51-8021)**  
2016 Est. Emp.: 70 / Mean Wage: \$30.09

**Telecommunications Equipment Installers & Repairers, Except Line Installers (49-2022)**  
2016 Est. Emp.: 29 / Mean Wage: \$16.46

**Grounds Maintenance Workers, All Other (37-3019)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$32.23

**Millwrights (49-9044)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$29.20

**Control & Valve Installers & Repairers, Except Mechanical Door (49-9012)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$27.90

**Pesticide Handlers, Sprayers, & Applicators, Vegetation (37-3012)**  
2016 Est. Emp.: No BCO data / Mean Wage: \$18.24

**Boilermakers (47-2011)**  
Elevator Installers & Repairers (47-4021)  
Highway Maintenance Workers (47-4051)  
Septic Tank Servicers & Sewer Pipe Cleaners (47-4071)  
Refractory Materials Repairers, Except Brickmasons (49-9045)  
Electrical Power-Line Installers & Repairers (49-9051)

Construction Career Clusters were derived from O\*NET Career Clusters and Standard Occupational Classifications (SOC). High-demand occupations with wages slightly below the locally determined minimum mean wage are denoted with an asterisk (\*).

